



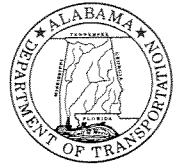
ALABAMA DEPARTMENT OF TRANSPORTATION

Bureau of County Transportation

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Bob Riley
Governor

Joe McInnes
Transportation Director

March 27, 2006

MEMORANDUM NO. 2006-14

TO: ALL COUNTY ENGINEERS AND DIVISION
COUNTY TRANSPORTATION ENGINEERS

FROM: 
JOHN F. COURSON
COUNTY TRANSPORTATION ENGINEER

RE: NEW POLICY FOR COUNTY BRIDGES WITH SPAN LENGTHS
OF 41 FEET OR LESS USING PILE BENT CONSTRUCTION

Attached is the new revised County Bridge Policy. This policy will go into effect immediately for all county bridge projects for which bridge plans have not been completed. Completed bridge plans for projects scheduled for letting in the June 30, 2006 letting or later will be reviewed by the Bridge Bureau for scour evaluation and may require revisions to comply with the new guidelines.

If you have any questions regarding these guidelines, please feel free to call.

JFC:at

Attachment

cc: Mr. D. W. Vaughn
FHWA
Mr. Rex Bush
Mr. Mike Harper
Mr. Don Arkle
Mr. Fred Conway
Mr. Larry Lockett
Mr. George Conner
File

STATE OF ALABAMA
DEPARTMENT OF TRANSPORTATION
GUIDELINES FOR COUNTY BRIDGE PROJECTS

POLICY FOR COUNTY BRIDGES WITH SPAN LENGTHS OF 41 FEET OR
LESS USING PILE BENT CONSTRUCTION

HP 12x53 piling will be the minimum pile size used on all bridges. HP 10x42 piling will no longer be allowed in any locations.

Piling used in the wire rope abutment anchor assemblies and wing piles shall be driven to refusal or 20', whichever is less. Abutment and bent piles shall be driven to refusal or to the minimum tip elevation shown on the plans. The minimum penetration for any pile shall not be less than 10 feet into natural ground and not less than 1/3 the length of the pile. If at least 10 feet of pile penetration cannot be obtained, then concrete pedestals or pilot holes shall be used.

A minimum of one (1) core boring for foundation design will be required and shown on the plans with sufficient data obtained to conduct a scour analysis and a static analysis to determine minimum and estimated pile tip elevations. If the scour analysis indicates the scour depth could extend within 10 feet of the minimum tip elevation for the piling, the county will have the option of plating the entire footprint of the structure with rip-rap, even if the recommended bridge is greater than 5 spans, or considering a different foundation design with longer spans or analyzing the bridge to determine if it will be stable for the computed depth of scour. A comparative cost analysis should be prepared by the County and approved by the State to determine which option should be used.

OR

Representative samples of soil defining the bed material size, gradation and distribution will be obtained from the stream bed and overbank under the proposed bridge for the purpose of performing a scour analysis as outlined in FHWA's HEC-18, Evaluating Scour at Bridges. These samples shall be furnished to an independent certified lab, Division Materials Lab or Materials and Tests Lab for them to furnish the County a D-50 to be furnished with the plan-profile sheet and other required data submitted for a hydraulic site inspection. This D-50 will be used to calculate scour. If the scour analysis indicates that the area is highly susceptible to scour or if excessive velocities, (greater than 5

ft/sec.) are calculated, the site report will indicate that the entire footprint of the bridge shall be plated with rip-rap in accordance with current standard drawings.

The county will have the option of plating the entire footprint of the structure with rip-rap, even if the recommended bridge is greater than 5 spans, or considering a different foundation design with longer spans. A comparative cost analysis should be prepared by the County and approved by the State to determine which option should be used.

If this option is chosen and the recommended bridge is 5 spans or less, piling shall be driven to refusal as defined by the specifications and no core boring is required.

If the site inspection determines that a structure longer than five (5) spans is required, then at least one core boring will be required for foundation design and scour analysis. More than one core boring is desirable for bridges longer than 5 spans.

A load test will be included as a pay item on all short span (41 ft. length spans or less) county bridges. The purpose of the load test is to confirm pile bearing capacity therefore a pile driving hammer approval will be waived.

RECOMMENDED FOR APPROVAL:

John D. Curson 3/16/06
County Transportation Engineer Date

APPROVED:

Re J. Bol 3-16-06
Assistant Chief Engineer, Date
Pre-Construction

APPROVED:

Wm J. Langley 3-23-06
Assistant Chief Engineer, Date
Operations

APPROVED:

Wm J. Langley 3-27-06
Chief Engineer Date